

Ecotox Report for Case # P-18-0212

General

Status 11/26/2018		Report Status: Complete	
Date:		CRSS Date: 06/25/2018	
SAT Date: 06/26/2018		SAT Doritza	
		Chair: Pagan-Rodriguez	
Consolidated N		Consolidated Set:	
PMN:			
Ecotox			
Related Cases:			
Health Related			
Cases:			
Submitter: Allnex USA Inc.			
CAS [REDACTED]			
Number:			
Chemical			
Name:			
Use: Resin for coatings applied to glass substrates; the resin improves the coatings' appearance and adhesion. All analogs are binder resins for coatings. Polymer Exemption case (E1).			
Trade Name: RESYDROL® VAY 5536w/60BMPP liquid coating resins, RESYDROL® AY 5537w/35WA liquid coating resins, RESYDROL® AY 6838w/35WA liquid coating resins,			
PV-max(kg/yr): [REDACTED]		Ecotox Jewett, Assessor: Freeborn	

Fate Summary Statement

Fate P-18-0212
Summary FATE:
Statement: MW = 4453 with 1.2% < 500 and 6.2% < 1000
Solid
S =
Disp.
VP < 1.0E-6 torr at 25 °C (E)
BP > 400 °C (E)
H <

1.00E-8 (E)
 POTW removal (%) = 90 via sorption
 Time for complete
 ultimate aerobic biodeg > mo
 Sorption to soils/sediments =
 v.strong
 PBT Potential: P3B1
 *CEB FATE: Migration to ground water =
 negl

PMN Material:
 Overall wastewater treatment removal is 90%
 via sorption.
 Sorption to sludge is strong based on data for large
 molecular weight polymers.
 Air Stripping (Volatilization to air) is
 negligible based on data for large molecular weight polymers.
 Removal
 by biodegradation in wastewater treatment is negligible based on data for
 large molecular weight polymers.
 The aerobic aquatic biodegradation
 half-life is greater than months based on data for large molecular weight
 polymers.
 The anaerobic aquatic biodegradation half-life is greater
 than months based on the aerobic biodegradation half-life. The anaerobic
 biodegradation half-life is projected to be greater than or equal to the
 aerobic biodegradation half-life.
 Sorption to soil and
 sediment is very strong based on data for large molecular weight
 polymers.
 Migration to groundwater is negligible based on data for
 large molecular weight polymers.
 PMN Material:
 High Persistence (P3)
 is based on the anaerobic biodegradation half-life and the high molecular
 volume.
 Low Bioaccumulation potential (B1) is based on data for large
 molecular weight polymers in addition to low water solubility, which
 inhibits bioavailability and
 biodegradation.
 Bioconcentration/Bioaccumulation factor to be put into
 E-Fast: N/A.

Physical Chemical Information

4453.0

Molecular Weight:		
Wt% < 500:	1.2	Wt% < 1000: 6.2
Physical State - Neat:	Solid (est.)	
Melting Point:		Melting Point (est):
MP (EPI):		
Vapor Pressure:		Vapor Pressure (est): <0.000001
VP (EPI):		
Water Solubility:		Water Solubility (est): Dispersible
Water Solubility (EPI):		
Henry's Law::		
Log Koc:		Log Koc (EPI):
Log Kow:		Log Kow (EPI):
Log Kow Comment:		

SAT**Concern Level**

Ecotox Rating (1):	1
Ecotox Rating Comment (1):	
Ecotox Rating (2):	
Ecotox Rating Comment (2):	
Ecotox Route of Exposure:	No releases to water

Ecotox Comments

Exposure Based Review (Eco):	N
Ecotox Comments:	

**Exposure Based
Testing:**

PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
3	1		

Eco-Toxicity Comment:

Fate Ratings

Removal ⁹⁰ in WWT/POTW (Overall): Condition	Rating Values	Rating Description				Comment
		1	2	3	4	
Fish BCF:						
Log Fish BCF:						
WWT/POTW Sorption:	3	Low	Moderate	Strong	V. Strong	
WWT/POTW Stripping:	4	Extensive	Moderate	Low	Negligible	
Biodegradation Removal:	4	Unknown	High	Moderate	Negligible	
Biodegradation Destruction:		Unknown	Complete	Partial	—	
Aerobic Biodeg Ult:	4	<= Days	Weeks	Months	> Months	
Aerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Anaerobic Biodeg Ult:	4	<= Days	Weeks	Months	> Months	
Anaerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Hydrolysis (t1/2 at pH 7,25C) A:		<= Minutes	Hours	Days	>= Months	
Hydrolysis (t1/2 at pH 7,25C) B:		<= Minutes	Hours	Days	>= Months	
Sorption to Soils/Sediments:	1	V. Strong	Strong	Moderate	Low	

Removal ⁹⁰ in WWT/POTW (Overall):						
Condition	Rating Values	Rating Description				Comment
		1	2	3	4	
Migration to Ground Water:	1	Negligible	Slow	Moderate	Rapid	
Photolysis A, Direct:		Negligible	Slow	Moderate	Rapid	
Photolysis B, Indirect:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox A, OH:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox B, O3:		Negligible	Slow	Moderate	Rapid	
Bio Comments:						
Fate Comments:						

Ecotoxicity Values

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
Fish	96-h	LC50	>100		Predictions are based on SARs for polyanionic polymers- XXXXXXXXXX acid group (special class within ECOSAR v.2.0)
Daphnid	48-h	LC50	>100		Predictions are based on SARs for polyanionic polymers- XXXXXXXXXX acid group (special class within ECOSAR v.2.0)
Green Algae	96-h	EC50	>100		Predictions are based on SARs for polyanionic polymers- XXXXXXXXXX

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
Fish	-	Chronic Value	>10		acid group (special class within ECOSAR v.2.0) Predictions are based on SARs for polyanionic polymers- acid group (special class within ECOSAR v.2.0)
Daphnid	-	Chronic Value	>10		Predictions are based on SARs for polyanionic polymers- acid group (special class within ECOSAR v.2.0)
Green Algae	-	Chronic Value	>10		Predictions are based on SARs for polyanionic polymers- acid group (special class within ECOSAR v.2.0)
<p>Ecotox Value Predictions are based on SARs for polyanionic polymers- acid group (special class within ECOSAR v.2.0); MW 4453 with 1.2% <500 and 6.2% <1000; COO anion; solid (est.) with an unknown MP (P); S = dispersible (P); effective concentrations based on 100% active ingredients and mean measured concentrations; hardness <150 mg/L as CaCO₃; and TOC <2.0 mg/L.</p>					

Ecotox Factors

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
---------	-------------------------	-------------------	-----	---------

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
Acute Aquatic (ppb):	100000	5	20000	Fish/Daphnia LC50
Chronic Aquatic(ppb):	10000	10	1000	Fish/daphnia ChV
Factors	Values	Comments		
SARs:	Polyanionic Polymers			
SAR	Polymer-anionic-			
Class:	COO anion-dispersible			
TSCA NCC				
Category?	Polyanionic Polymers (Momomers)			

Recommended**Testing:****Ecotox Factors** Environmental

Comments: Hazard: Environmental hazard is relevant to whether a new chemical substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA determined environmental hazard for this new chemical substance based on SAR predictions for polyanionic polymers-XXXXXXXXXX acid group (special class within ECOSAR v.2.0). Acute toxicity values estimated for fish, aquatic invertebrates, and algae are >100 mg/L, >100 mg/L, and >100 mg/L, respectively. Chronic toxicity values estimated for fish, aquatic invertebrates, and algae are >10 mg/L, >10 mg/L, and >10 mg/L, respectively. These toxicity values indicate that the new chemical substance is expected to have low environmental hazard. Application of assessment factors of 5 and 10 to acute and chronic toxicity values, respectively, results in acute and chronic concentrations of concern of 20 mg/L (20,000 ppb) and 1 mg/L (1,000 ppb), respectively.

Environmental Risk: Risks to the environment were evaluated by comparing estimated surface water concentrations with the acute and chronic concentrations of concern. Risks to the environment were not identified based on low hazard.

Comments/Telephone Log

Artifact	Update/Upload Time

Artifact	Update/Upload Time
[REDACTED]	[REDACTED]